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THE PLANT DISEASE REPORTER

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Division of Mycology and Disease Survey

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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THE PLANT DISEASE SURVEY

DIVISION OF MYCOLOGY AND DISEASE SURVEY

Vol. XXIV Number 8

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DISEASES OF FRUITS AND VEGETABLES ON THE NEW YORK MARKET DURING THE MONTHS OF OCTOBER, NOVEMBER, AND DECEMBER, 1939

C. O. Bratley and James S. Wiant

APPLES:

Apples from the Pacific Northwest were less affected with washing injury during the 3 months than in any recent season.

Blue mold rot (Penicillium expansum) was found affecting 20 percent of the apples in one car from Washington. In general this decay was slightly less common than usual.

Twenty-ounce apples from Vermont in a carlot held in cold storage at New York City were found to be badly affected with internal breakdown by the latter part of December. Sixty-five percent of the fruit was broken down. The affected tissue showed typical symptoms of the disease except that it was slightly more moist than usual. Two lots of this variety from New York State were found similarly affected at about this same time last year.

During December samples said to be representative of about 12 percent of the fruit in several carlots of Rhode Island Greening apples from western New York were examined. They were severely affected with bitter pit which in many cases appeared near the surface, killing circular patches of skin. A slowly developing black decay that proved to be alternaria rot occurred in many of these patches.

CELERY:

During late November and mid-December several carlots of California celery were found affected with chestnut-brown spots on the basal portion of the stalks. The lesions were deeply sunken and variable in size, with many approximately 1/2 inch in width and extending an inch or more up the petiole. The majority were confined to the inner surface of the outer 2 to 4 petioles, usually only a few inches from the crown. The affected tissues had dried out so that they consisted of only a thin layer lining the lesion cavities. The cause of the trouble is unknown although numerous isolations have yielded bacteria, Fusarium spp., and Rhizoctonia solani.

Similar lesions have been observed previously on celery from the Everglades section of Florida and from the truck-garden section near Hackensack, New Jersey.

Approximately 70 percent of the stalks in 90 crates of upper New York State celery received in mid-December was found affected with a black crown rot. Although the symptoms were indistinguishable from those of phoma root rot (Phoma apiicola) none of the isolates have developed fruiting bodies.

Practically all petioles were partially or completely decayed at their bases so that nearly complete loss of affected stalks resulted.

FINOCCHIO:

A carlot of California finocchio (commonly called "sweet anise") arrived at New York City in early December with nearly total loss from watery soft rot (Sclerotinia sclerotiorum) which affected chiefly the green tops. Records show that the car was not unloaded until 20 days after the date of shipment.

GRAPES:

A firm jet-black decay confined to scattered berries was found in several carlots of Emperor grapes from California during the latter part of December. Two lots in sawdust pack that had been held in storage in New York had from 1 to 8 berries affected in almost every bunch. Species of Cladosporium and Alternaria were isolated from the lesions.

Many carlots of Emperor grapes that arrived from California during the 3-month period showed an unusual spotting of the berries. The spots were dark brown, roughly circular in outline, from 1/16 to 1/4 inch in diameter and only skin deep. Occasionally they took on the pattern of powdery mildew but generally the spots were definite and circular in outline. Isolations from affected areas either remained sterile or gave a variety of organisms. The cause of the spots was not learned, but it is thought they were of field origin for no development occurred on affected fruits when held for a week or more at room temperature.

Powdery mildew (Uncinula necator) russeting in feathery patches was more common this season on a number of varieties of California grapes than had been noted the past few seasons. Only a few lots showed severe russeting but a number of cars, particularly of the Muscat variety, showed slight russeting of many berries.

Sulfur dioxide injury in the form of severely bleached areas around the cap stem attachment was found affecting 5, 10, and 12 percent of the berries in 3 cars of Emperor grapes from one shipper in California. The injury was worst in the top layer lugs. Many carlots of this variety contained an occasional bunch with slightly bleached berries.

Gray mold rot (Botrytis spp.) was found in small amounts in shipments of California table grapes during October and November. In October 3 carlots of the Emperor variety contained 5, 5, and 10 percent of this decay respectively. Several lots of juice grapes seen during this period contained gray mold rot and black mold rot (Aspergillus niger) affecting up to 30 percent of the bunches.

IRISH POTATO:

Tuber ring rot (Phytomonas sepedonica) was observed occasionally in small amounts in Maine potatoes received during late fall and early winter.

Net necrosis (virus) was unusually prevalent in Green Mountain seed potatoes shipped into Long Island from Maine during December. Within a group of 10 carlots inspected by the Agricultural Marketing Service--from many of which sample lots were examined by the writers--an average of 3.7 percent of the tubers were affected with severe net necrosis extending at least 1/2 inch into the tuber. An additional 20 percent (average) were affected with a shallow stem-end discoloration much of which was net necrosis although undoubtedly much of it was stem-end browning (physiological?).

Numerous samples of Long Island potatoes brought in for examination were found affected with internal grayish-black spots scattered through the flesh of the tuber but occurring more abundantly near the surface. The trouble appeared to be an unusually severe form of bruising although in many cases no evidence of such injury was apparent externally.

ORANGES:

Breakdown of the skin around the stem of the fruit was common during the 3 months covered by this report on Florida oranges that had received "color added" treatment. Many cars of such fruit showed between 5 and 10 percent of the fruit so injured.

PLUMS:

Italian prunes from Idaho were affected more than usual with rhizopus rot (Rhizopus spp.) in early shipments and with blue mold rot (Penicillium spp.) in later shipments out of storage. Twelve of the cars that arrived during early September had from 2 to 25 percent, average 5 percent, rhizopus rot. During late September and October blue mold rot was found affecting from 3 to 25, average 8 percent, in 13 cars of this fruit.

TOMATO:

Samples of Texas tomatoes sent in for examination in early December by an inspector at the New Haven, Connecticut, market were found to be severely spotted with nailhead (Alternaria solani). Apparently only a limited number of lugs in the carlot were affected. The car was loaded at Poteet, Texas.

An unusual type of trouble (physiological?) was observed in a car of tomatoes that arrived in late November from Fort Pierce, Florida. Scattered throughout the car were many tomatoes in which brown, corky areas had developed in the vascular tissues near the surface of the fruits. These were visible from the outside as faint irregular brown blotches. Upon cutting the fruits the discolored areas were very prominent and constituted a serious defect.

Considerable decay was present in many cars of California tomatoes that arrived during November. Macrosporium rot (Macrosporium spp.) alternaria rot (Alternaria spp.), and green mold rot (Cladosporium herbarum) predominated. Uneven coloring and definite mottling from virus diseases caused marked reduction in market value. Shoulder bruises and other types of mechanical injury together with skin checks constituted serious blemishes. Examination of certificates issued by the Agricultural Marketing Service on 17 cars shows that an average of 8.5 percent of the tomatoes were decayed while 12 percent were seriously blemished.

Similar troubles were noted commonly on Texas tomatoes that arrived on the New York market in early December.

(Division of Fruit and Vegetable Crops and Diseases).

DISEASES OF SHADE AND ORNAMENTAL TREES: SUMMARY OF SPECIMENS RECEIVED IN 1939 AT THE NEW HAVEN OFFICE, DIVISION OF FOREST PATHOLOGY

Alma M. Waterman

ACER
- Canker (Coryneum negundinis). Maine on A. negundo.
- Dieback (Phomopsis sp.). Pennsylvania on A. palmatum.
- Leaf spot (Phyllosticta minima). District of Columbia on A. rubrum; Maryland on A. dasycarpum.

AESCULUS HIPPOCASTANUM
- Leaf blotch (Guignardia aesculi). New Jersey, Pennsylvania.

AILANTHUS
- Dieback (Phomopsis sp.). New York.

BETULA
- Canker (Melanconium bicolor). New York, Ohio.

CATALPA
- Dieback (Phomopsis sp.). Ohio.

CELTIS
- Powdery mildew (Sphaerotheca phytoptophila). Pennsylvania.

CERCIS CANADENSIS
Leaf spot (Phyllosticta cercidicola). District of Columbia.

CORNUS
Leaf spot (Septoria sp.). Iowa on C. asperifolia, C. circinata, C. purpusii, C. sanguinea.
Twig blight (Myxosporium nitidum). District of Columbia.

CUPRESSUS
Canker (Monochaetia sp.). Mississippi on C. arizonica.

FAGUS
Dieback (Phomopsis sp.). New York on F. sylvatica.

FRAXINUS AMERICANA
Rust (Puccinia fraxinata). Maine, Maryland.

JUNIPERUS VIRGINIANA
Cedar rust (Gymnosporangium juniperi-virginianae). Iowa; New York, Pennsylvania.

LIRIODENDRON TULIPIFERA
Leaf spot (Phyllosticta liriodendrica). New York.

PHOTINIA SERRULATA
Leaf spot (Cercospora heteromeles). Virginia.

PICEA
Tip blight (Ascochyta piniperda). Maine on P. pungens.
Canker (Cytospora kunzei). Connecticut, Illinois, Minnesota, New York, on P. pungens.
Leaf cast (Rhizosphaera sp.). New York.

PINUS
Leaf cast (Bifusella linearis). Pennsylvania on P. strobus.
(Bifusella striiformis). California on P. coulteri.
(Hypoderma lethale). Pennsylvania on P. nigra.
(Lophodermium pinastri). Maine on P. sylvestris.
Tip blight (Sphaeropsis ellisii). Iowa, Maine, Massachusetts, New York, Rhode Island, Wisconsin, on P. nigra; New York on P. sylvestris.

PRUNUS
Dieback (Phomopsis sp.). District of Columbia, Virginia.

QUERCUS
Anthracnose (Gnomonia veneta). Illinois, New Jersey, Virginia.
Leaf spot (Monochactia desmazierii). Virginia.

RIBES

Downy Mildew (Plasmopara sp.). Virginia on leaves bearing telia of Cronartium ribicola.

SALIX

Canker (Botryosphaeria ribis). Mississippi, Virginia, on S. discolor.
Canker (Cytospora chrysosperma). Maryland on S. babylonica.
Canker (Septomyxa sp.). Ohio on S. incana.

SAMBUCUS

Rust (Puccinia sambuci). Massachusetts.

SORBUS AMERICANA

Leaf spot (Phyllosticta sorbi). Missouri.

ULMUS

Canker (Cytospora sp.). Rhode Island, Tennessee.
Black leaf spot (Gnomonia ulmea). Maryland, Ohio, Pennsylvania.
Canker (Phomopsis oblonga). Maryland, Minnesota, New Hampshire, Ohio.
Leaf blister (Taphrina ulmi). District of Columbia.
Powdery mildew (Uncinula macrospora). Alabama, North Carolina.

(Division of Forest Pathology, Bureau of Plant Industry, U. S. Department of Agriculture, in cooperation with Osborn Botanical Laboratory, Yale University, New Haven, Connecticut).

EPIPHYTOTIC OF BOTRYTIS BLIGHT ON GLADIOLUS IN FLORIDA

A. W. Dimock

On March 23 a number of diseased gladiolus plants, including 3 unspecified varieties (among them Picardy), were sent to us from a large gladiolus grower in the vicinity of Bradenton, Florida. Small water-soaked lesions were present on the petals of some of the blossoms, while the tips of many petals were completely dried and withered. Numerous small circular lesions were present on the leaves, about 1 mm. in diameter, light green or yellow in color with a small reddish dot at the center. Sunken brown lesions, about 1 mm. in width and 1 to 4 mm. in length, were present on the stems. Numerous isolations were made from petal, leaf, and stem lesions, and in nearly all cases these gave a pure culture of a Botrytis of the cinerea type. Furthermore, Botrytis developed in profusion on all pieces of tissue placed in moist chambers.

Of the weather conditions prevailing at the time the grower wrote as follows:

> "Weather conditions in the last week or two have been rather bad with considerable salt fog at night and in the mornings and on the day before the trouble became the worst we had a heavy downpour of rain."

Consideration of the facts that Botrytis was isolated in pure culture in nearly all attempts and that climatic conditions were optimum for rapid development of botrytis blight, leaves little doubt that the epiphytotic was caused by one or more strains of Botrytis.

In response to our request the grower wrote as follows concerning the loss incurred:

> "Since our letter to you we find that the damage is very widespread, not only with all other glad growers, but appearing on roses, camellias, gardenias, sweet peas, snaps, lettuce, cabbage, celery, and cauliflower.
>
> "As to the extent of the damage it is hard to tell just yet, but we have lost at least 15,000 dozen glads."

Shortly after receipt of the above specimens, namely on April 2, we received a shipment of diseased gladiolus from another large grower at Fort Myers, Florida. These plants were not in blossom but the foliage symptoms were similar to those noted above, though much more severe. The healthy tissue of nearly all leaves was almost completely covered with the small circular spots. Botrytis was again readily isolated in pure culture from the lesions. The grower's comments on the disease are of interest and are quoted here:

> "This is a very peculiar condition which occurs notevery year but we have had some occur as far back as 5 or 6 years ago and so far we have been unable to find anyone who can diagnose this disease for us.
>
> "The first stages of this condition appear to be water-soaked spots on otherwise perfectly normal and healthy growth. With high humidity and high temperature these spots elongate quickly and will destroy the tissues and eventually the entire plant. Gladiolus can be affected in all stages of growth, however, as you will see by the sample submitted, if this disease which spreads very rapidly over the entire plantings once it has started, gets hold of a planting which is already in spikes, we will be cutting a normal flower and be digging a fairly normal sized bulb. The leaf tissue, however, will be completely destroyed in a week or two."

This appears to be the first report, though doubtless not the first occurrence, of botrytis blight in epiphytotic proportions on gladiolus in the United States. McWhorter recently described Botrytis on gladiolus leaves in Oregon (Pl. Dis. Reptr. 23 (21): 347. 1939), but the type of lesion described by him was entirely different from that which we observed, and in his opinion the Botrytis was acting as a secondary invader. A botrytis dry rot of gladiolus in New York was

recently described by Weiss (Pl. Dis. Reptr. 24 (5): 119. 1940), but the disease was apparently observed only on the corms. The foliage symptoms which we observed agree well with those described by Moore in his discussion of botrytis rot in his bulletin "Diseases of Bulbs" (Bul. 117, Min. Agr. & Fisheries, Gt. Brit.), but the prevalence of the disease on numerous other suscepts and the complete absence of any symptoms on the corms examined lead us to doubt that a specific gladiolus strain of Botrytis was here involved.

(Cornell University, Ithaca, New York).

OBSERVATIONS ON CEREAL RUSTS IN TEXAS

E. S. McFadden

The writer returned on March 16 from a 6-day trip to the South Texas substations at Angleton, Beeville, and Weslaco, where preliminary notes were taken on the development of the various rusts of wheat, oats, and barley.

At Angleton, on March 11 the only rust found in the small grain nurseries was leaf rust of wheat [Puccinia rubigo-vera tritici], which was present in a few small infection centers averaging about 2 feet in diameter. In these areas, infection was so heavy that many of the leaves were becoming chlorotic.

At Beeville, where extreme drought had prevailed since the time of seeding the small grains, very little top growth had developed and no rust of any kind was found.

At Weslaco, in the lower Rio Grande Valley where the small grain nurseries were grown under irrigation, the leaf rusts of wheat, oats, and barley were all found in epidemic proportions. Dr. G. H. Godfrey, plant pathologist at that station, spent the greater part of March 14 and 15 assisting the writer in taking notes on varietal reactions to the various rusts. Dwarf rust of barley (Puccinia anomala) was especially severe and uniformly developed on all susceptible varieties. The more susceptible varieties such as Marnobarb and Trebi were beginning to lose their leaves as a result of the heavy infection. Other varieties, notably Abacus, Juliaca, Bolivia, Mecnos Moroc, Orge de Staf, Cabeza, Abyssinian, and 2 strains of Arequipa were entirely free from pustules and showed only slight flecking. In the wheat nursery, leaf rust was especially severe on Kota, McMurachy, and most of the Kenya wheats, while varieties such as Frontaira, Supreza, Vencedor, and most of the Hope hybrids showed only slight flecking of the leaves. Since most of the wheat varieties grown in the nursery have at least a moderate degree of resistance to stem rust [P. graminis], very little infection by that disease could be found. It is noteworthy, however, that Kota wheat, which was at one time considered resistant to stem rust, carried by far the heaviest infection of any

of the 132 varieties and strains included in the nursery, whereas Marquis and Mindum were entirely rust free. Crown rust [P. coronata] of oats was becoming so severe that it is probable that completely susceptible varieties will produce no grain. No stem rust was found on any of the 128 varieties and strains of oats grown in the nursery at Weslaco, all except 2 of which proved to be homozygous for resistance at College Station last year.

Upon returning to College Station, a thorough inspection of the nursery plots of wheat, oats, and barley on March 20 failed to reveal the presence of any of the cereal rusts. In normal years, leaf rust of wheat and crown rust of oats are uniformly distributed in susceptible material at this station by this time of the year.

(Division of Cereal Crops and Diseases, U. S. Bureau of Plant Industry).

MEALY BUG INJURIES ON STRAWBERRIES GROWING UNDER GLASS IN MONTANA

M. M. Afanasiev

Investigating the nature of yellowing of the everbearing Progressive strawberries in the Botany greenhouse at the Montana Agricultural Experiment Station in Bozeman, Montana, during 1936-1939, it was found that numerous plants of Progressive, Marshall, and Blakemore varieties exhibited certain leaf symptoms which to a considerable degree resemble the crinkle [virus] disease of strawberries as described by S. M. Zeller and E. K. Vaughan. (Phytopathology, 22: 709-713. 1932). Detailed examination of these plants revealed the presence of numerous mealy bugs among the young and only partly unfolded leaves.

At about this time, there appeared an article by A. A. Hildebrand (Notes on mealy bug injury on strawberries and its resemblance to crinkle. Can. Jour. Res. C, 17: 205-211. 1932); he described the symptoms of mealy bug injuries in detail and compared them with crinkle disease of strawberries with which it could be confused because of certain similarities in the symptoms.

The symptoms of our plants entirely coincided with those described by Hildebrand for mealy bug injuries. By spraying infested plants with nicotine and penetrol the plants were cleaned of mealy bugs. All newly formed leaves on plants free of mealy bugs were found to be normal, although the old leaves still carried symptoms of mealy bug injury.

It was concluded that mealy bugs were responsible for the appearance on strawberries of the symptoms somewhat resembling crinkle disease of strawberries.

(Montana Agricultural Experiment Station).

APPLE SCAB NOTES FROM MASSACHUSETTS AND NEW YORK

PRESENT STATUS OF APPLE SCAB IN MASSACHUSETTS: It is a bit early yet to state the scab [Venturia inaequalis] spore development stage in the old leaves because only a few leaf samples have been received. With the buds swelled in all of the medium-to-low elevation orchards, however, and approaching the silver-tip stage, more samples should be arriving very soon.

Nevertheless, these leaf samples that have been received, together with samples collected in Amherst, indicate that scab development is even later, relatively, than tree development, and the trees are considerably slower than they are in the average season. Last year, tree development at this date likewise was late, but scab spore growth was ahead of normal. In 1938, both tree and scab spore development were far advanced at this time of the month.

Year	Bud stage at Amherst, April 17	Scab spore development
1939	Approaching silver-tip	Mature spores present
1938	Pre-pre-pink	Mature spores plentiful and shooting
1937	Early green tip	" " " " "
1940	Approaching silver-tip	Spores not yet started to form

There are two probable explanations for the lateness of scab development: (a) the exceedingly dry weather last November following defoliation (only 0.98 inches of rainfall compared with 3.41 normal), and (b) the late snow cover this spring. The former, however, is considered by far the more important of the two factors. Along with the scarcity of rainfall, in November, the weather also was unusually cold, the mean daily temperature being 2.1° F. below normal for that month. (O. C. Boyd, Massachusetts State College. April 17).

APPLE SCAB NOTES FROM NEW YORK: Nearly half of the perithecia in McIntosh leaves gathered the morning of April 9 contained some colored ascospores. Over half the spores were deeply colored in 19 percent of the perithecia, while less than half were colored in 27 percent of the perithecia. Snow covered the ground for many weeks until after April 1, so the advanced development of the scab fungus is rather surprising. Trap slides showed no spore discharge from leaves of this sample until the morning of April 12, when 8 ascospores were found on one slide. (W. D. Mills, New York State College of Agriculture Departments of Entomology and Plant Pathology Weekly News Letter. April 15).

BRIEF NOTES ON PLANT DISEASES

PINK PATCH OF FESCUE GRASSES IN OREGON: The pink patch fungus (Corticium fuciforme [McAlp.] Wak.) has been known for a number of years in Oregon. It is relatively common on rat tail fescue (Festuca myuros) in western Oregon in late winter and spring and is less often found in lawns on Chewings fescue (F. rubra commutata). It has been found in Portland, in Astoria (G. R. Hyslop in June 1939), and at present occurs in a few lawns at Corvallis. In one lawn of Chewings fescue seeded last year it is causing numerous disfiguring pink patches that average from 3 to 15 inches in diameter. During the past 3 days of steady rain, these patches have increased appreciably in size and number. The grass in the spots is dead and bright coral pink. The mycelial masses are coral red and are distinctly gelatinous during rainy weather. They cover considerable of the dead leaf area but tend to aggregate as short "horns" near the tips of leaves.

While the writer has seen this fungus intermittently since 1930, he believes that it is increasing. Since fescue grasses are becoming more popular as lawn grasses, the pink patch disease possibly will become of some economic importance in western Oregon. (Roderick Sprague, Division of Cereal Crops and Diseases. March 27).

DOWNY MILDEW OF VETCH IN OREGON: During the past week, which has been warm and moist for the most part, vetch plantings have been suffering moderate to severe attacks of downy mildew, Peronospora sp. Some selections of vetch are more seriously hurt than others. So far, the attacks have all been on common vetch (Vicia sativa) and various selections from it. In some cases almost 100 percent killing seems probable. The organism has not been definitely named yet, but pathologists believe it to be the same downy mildew that attacks the perennial giant vetch (V. gigantea) along the coast. It seems to be slightly different from the downy mildew organism that attacks garden peas (Pisum sativum) on the coast. I have never seen this fungus on any of our vetches before and the pathologists had no record of its having been reported from this valley previously. I am told that in all probability a few dry days will cause the disease to slack off and disappear. Today is the first day we have had for two weeks when rain has not threatened or actually fallen. (H. H. Rampton, Division of Forage Crops and Diseases. April 10).

CORRECTIONS TO THE 1938 CROP LOSS ESTIMATES

M. F. Barrus writes that the percentage loss from stem rust of wheat in New York should be 0.5, instead of 5 as given in Supplement 118 (page 86). This correction makes necessary the following changes:

Disease	Estimated reduction in yield					
	New York		North Atlantic		United States	
	%	1,000 bushels	%	1,000 bushels	%	1,000 bushels
Scab	1.	116	0.4	143	0.6	6,799
Leaf rust	25.	2,897	14.5	5,610	9.4	100,364
Stem rust	0.5	58	1.9	736	2.4	25,334
Bunt	3.	348	2.6	1,026	0.9	9,429
Loose smut	1.	116	1.5	577	0.6	6,398
Foot rots	0.5	58	0.1	58	0.7	7,950
All diseases	35.	4,037	23.6	9,157	15.2	161,168

R. W. Goss writes that the 60 percent loss from bacterial halo blight of beans in Nebraska referred only to green beans and should not have been listed under dry beans (page 106). The average loss for the State for blight on dry beans was estimated at 9 percent, due almost entirely to the common blight. The changed figures due to this correction are as follows:

State	Bacterial blights				All diseases	
	Common		Halo			
	%	1,000 bags	%	1,000 bags	%	1,000 bags
Nebraska	9.	19	-	-	9.	19
U. S.	2.3	255	3.3	360	7.6	831

In the table for green beans, page 105, Nebraska should be inserted after Iowa, with 60 percent under the headings for halo blight and all diseases. Since production figures are not given for Nebraska, the addition does not affect the United States' totals and averages.

CORRECTIONS AND ADDITIONS TO THE CHECK LIST REVISION

Reprints of the sample section published in the preceding issue of the Reporter (pages 140-148) are available for anyone who wishes to insert additions, corrections, or suggestions, and return the annotated list to this Division.

STEM RUST ON WHEAT IN TEXAS

I. M. Atkins

The item of most interest at this time is that stem rust [Puccinia graminis tritici] of wheat has been found on rather a broad front extending from Cleburne, Texas, which is 27 miles southwest of Fort Worth to McKinney, Texas, 30 miles northeast of Dallas, Texas. The infection is very light, in most instances only single pustules can be found as though a general spore shower had occurred. In 2 fields, one near Cleburne and another near Plano, Texas, centers of infection in which several generations had developed, were found. A very small amount of leaf rust [P. rubigo-vera tritici] of wheat was found in this area. Over most of this area wheat is short, thin, and not favorable for rust development. East and north of Dallas, the wheat is rank and provides favorable conditions for the development of rust. No rust was found on oats or barley. Loose smut [Ustilago tritici] of wheat is again rather prevalent, with some fields having rather high infection. In general, the infection is not as high as last year. Smut of oats is more prevalent than for some time. Very high infection was noted in a few fields.

Weather conditions at Denton have been unfavorable for rust infection. Dry, clear weather with few dews have been the rule. Grain is making rapid progress with early strains of all crops heading at this time.

(Division of Cereal Crops and Diseases. April 25).

VIEWPOINTS

"In this delicately balanced, or unbalanced, world of ours we are struggling for some measure of stability; without it we can hope for little. Crop production will continue to be affected directly or indirectly by weather conditions, but at least we can hope, by a greater measure of control over some of the other factors in production, to make our primary industries more secure and less a speculative gamble than they are so frequently at the present time.

"Appalling losses result each year from the incidence of plant diseases alone, but perhaps even more appalling, in view of existing conditions, is the fact that many of those losses result from diseases for which adequate control measures are available, and although the producer suffers directly, the whole community eventually is affected .... While most primary producers know infinitely more than their predecessors of fifty years ago, still too small a proportion of them is in a position to take full advantage of modern methods."--R. J. Noble, Presidential address. Journ. & Proc. Roy. Soc. New South Wales, 1935, 69: 1-34. 1935.